



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,023	09/23/2005	Risto Tuominen	0365-0652PUS1	4655
2252	7590	11/03/2008		
BIRCH STEWART KOLASCH & BIRCH			EXAMINER	
PO BOX 747			WILLIAMS, ALEXANDER O	
FALLS CHURCH, VA 22040-0747			ART UNIT	PAPER NUMBER
			2826	
NOTIFICATION DATE	DELIVERY MODE			
11/03/2008	ELECTRONIC			

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/550,023	<b>Applicant(s)</b> TUOMINEN ET AL.
	<b>Examiner</b> Alexander O. Williams	<b>Art Unit</b> 2826

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 11 July 2008.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 1-18 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 19-32 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1448)  
 Paper No(s)/Mail Date 4/9/08; 5/11/07 & 9/23/05
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_

Serial Number: 10/550023 Attorney's Docket #: 0365-0652PUS1  
Filing Date: 9/23/200597; claimed foreign priority to 4/1/2003

Applicant: Tuominen et al.

Examiner: Alexander Williams

This application is a 371 of PCT/FI04/00195 filed 3/31/2004.

Applicant's Amendment/election of Group I (claims 19 to 32), filed 7/11/2008, has been acknowledged.

This application contains claims 1 to 18 drawn to an invention non-elected with traverse.

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claims 20-32 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 20-32, the phrase “An electronic module” should be --The electronic module--.

Any of claims 20-32 not specifically addressed above are rejected as being dependent on one or more of the claims which have been specifically objected to above.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 19-32, **insofar as some of them can be understood**, are rejected under 35 U.S.C. § 102(b) as being anticipated by Mowatt et al. (U.S. Patent # 5,306,670).

19. Mowatt et al. (figures 1 to 10) specifically figures 3, 4 and 7 show an electronic module, the module comprising: an insulating-material layer **10**, which has a first surface and a second surface, at least one hole or recess **14** in the insulating-material layer, which opens out onto the first surface, at least one component **56** inside the at least one hole or recess, wherein the component includes contact zones on the side of the component that faces the first surface of the insulating-material layer, and further wherein the component is positioned in such a way that the contact zones are located at a specified distance from the level of the first surface of the insulating-material layer; a conductive-pattern layer **130**, which runs on the first surface of the insulating-material layer and extends on top of the at least one hole or recess in the insulating-material layer and at the location of the contact zones of the components; a hardened adhesive layer **22** in the hole or recess in the insulating-material layer, between the component and the conductive layer, and conductive-material formations penetrating the adhesive layer, for forming an electrical contact between the conductive-pattern layer and the contact zones of the component (**see abstract; column 4, line 62 to column 6, line 47**).

Art Unit: 2826

20. An electronic module according to claim 19, Mowatt et al. show wherein the thickness of the component is less than the thickness of the insulating-material layer in the direction between the first surface and the second surface of the insulating-material layer.

21. An electronic module according to claim 19, Mowatt et al. show wherein the conductive-pattern layer is substantially flat, so that the surface of the conductive-pattern layer that lies against the insulating-material layer, and the hole or recess in the insulating-material layer for the component, is located entirely at substantially the level of the first surface of the insulating-material layer.

22. An electronic module according to claim 19, Mowatt et al. further comprising a second conductive-pattern layer, which runs on the second surface of the insulating-material layer.

23. An electronic module according to claim 19, Mowatt et al. show which includes several components, which are connected electrically to each other by means of conductive patterns, in such a way that the components form a functional totality.

24. An electronic module according to claim 22, Mowatt et al. show wherein the insulating-material layer is a unified and tight layer of polymer between the conductive-pattern layer and the second conductive-pattern layer and around the at least one component.

25. An electronic module according to claim 24, Mowatt et al. show wherein the polymer is epoxy.
26. An electronic module according to claim 25, Mowatt et al. show wherein the insulating-material layer includes at least one layer of glass-fibres inside the layer of epoxy.
27. An electronic module according to claim 26, Mowatt et al. show wherein at least one of said at least one layer of glass-fibres comprise a hole made for the at least one component.
28. An electronic module according to claim 26, Mowatt et al. show wherein at least one of said at least one layer of glass-fibres extends between the at least one component and the second conductive-pattern layer.
29. An electronic module according to claim 19, Mowatt et al. show wherein the insulating-material layer comprising at least one glass-fibre mat and a layer of epoxy tightly surrounding said at least one component and said at least one glass-fibre mat.
30. An electronic module according to claim 19, Mowatt et al. show wherein the insulating-material layer comprises epoxy and at least one glass-fibre mat having at least one hole for the at least one component.
31. An electronic module according to claim 30, Mowatt et al. show wherein the at least one component is located in the at

least one hole in the glass-fibre mat and the epoxy fills the at least one hole in the glass-fibre mat around the component.

32. An electronic module according to claim 30, Mowatt et al. show wherein the epoxy forms a unified layer fastening the at least one glass-fibre mat and the at least one component in the electronic module.

The following references are cited as of interest to this application, but not applied at this time.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander O. Williams whose telephone number is (571) 272 1924. The examiner can normally be reached on M-F 6:30AM-7:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sue Purvis can be reached on (571) 272 1236. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2826

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AOW  
10/30/2008

/Alexander O Williams/  
Primary Examiner, Art Unit 2826